

Notice of Allowability

Application No.

10/698,662

Examiner

Mark Ruthkosky

Applicant(s)

ENJOJI ET AL.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 6/28/2006.
2. ☒ The allowed claim(s) is/are 1-6.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

MARK RUTHKOSKY
PRIMARY EXAMINER

Mark Ruthkosky 8/29/06

DETAILED ACTION

Claim Rejections - 35 USC § 112

The rejection of claims 1-2 under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention has been overcome by applicant's amendment.

Claim Rejections - 35 USC § 103

The rejection of claims 1-3 under 35 U.S.C. 103(a) as being unpatentable over Elhamid et al. (US 6,887,610) has been overcome by applicant's amendment.

Allowable Subject Matter

Claims 1-6 are allowed.

The following is an examiner's statement of reasons for allowance:

The instant claims are to a fuel cell comprising a plurality of electrolyte electrode assemblies including a anode, a cathode, and an electrolyte interposed between said anode and said cathode; and a plurality of resinous passage members and metal portions combined together such that said metal portions cover said resinous passage members, wherein a coolant flow field electrically insulated from said electrolyte electrode assemblies is defined by said resinous passage member; a coolant is supplied to said coolant flow field for cooling said electrolyte electrode assemblies; and each of said metal portions comprises a contact portion contacting one of said electrolyte electrode assemblies and an outer portion remote from said contact portion;

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electric energy generated in said electrolyte electrode assemblies is serially collected at said contact portion and an outer portion of one of said metal portions electrically contacts an outer portion of another of said metal portions, said another metal portion is adjacent to said one metal portion on a side opposite to a contact surface of said contact portion of said one metal portion for serially transmitting said electric energy. The prior art does not teach a fuel cell, as claimed, wherein each of said metal portions comprises a contact portion contacting one of said electrolyte electrode assemblies and an outer portion remote from said contact portion and an outer portion of one of said metal portions electrically contacts an outer portion of another of said metal portions, said another metal portion is adjacent to said one metal portion on a side opposite to a contact surface of said contact portion of said one metal portion for serially transmitting said electric energy.

The most pertinent prior art has been cited. Elhamid et al. (US 6,887,610) teaches a fuel cell comprising an electrolyte electrode assembly including an anode, a cathode, and an electrolyte interposed between said anode and said cathode. A separator passage member and a metal member are combined together such that said metal member covers said separator passage member. A coolant is supplied to said coolant flow field for cooling said electrolyte electrode assembly; and electric energy generated in said electrolyte electrode assembly is serially transmitted through a surface of said metal member around, and collected from said electrolyte electrode assembly (claims 1-9 and figures 4-5.) The separator includes two plates combined to give a coolant flow channel. The flow channel is coated with gold or silver. The separator plates may be stainless steel, graphite, or any metal or non-metal that is capable of being plated with a metallic plating material (col. 6, lines 20-40.) Sealant materials are formed on the plate

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(reference # 38) from a resin member (figures 4-5.) Stainless steel/gold claddings are taught in Table 1. The Elhamid et al. (US 6,887,610) reference does not teach the coolant flow field electrically is insulated from said electrolyte electrode assembly by a resinous passage member. Further, the reference does not teach that each of the metal portions comprises a contact portion contacting one of the electrolyte electrode assemblies and an outer portion remote from the contact portion and an outer portion of one of the metal portions electrically contacts an outer portion of another of the metal portions, wherein the another metal portion is adjacent to the one metal portion on a side opposite to a contact surface of said contact portion of the one metal portion for serially transmitting electric energy.

Claims 4-5 are allowed as the metal member includes a copper member and a foamed metal member impregnated with a resin. The prior art, as cited, does not teach a metal member of these materials. Claim 6 is allowed, as the prior art does not teach a metal member formed of stainless steel and copper and the coolant flow field is electrically insulated by the resin passage member. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Examiner Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark Ruthkosky whose telephone number is 571-272-1291. The examiner can normally be reached on FLEX schedule (generally, Monday-Thursday from 9:00-

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6:30.) If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached at 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free.)

Mark Ruthkosky

Primary Patent Examiner

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Mark Ruthkosky
8/29/06